What is claimed is:

1. A printed circuit board for a three-phase power device, the printed circuit board having at least a first switching device, a second switching device, a third switching device, and a common source node that are each mounted to a surface of the printed circuit board, the printed circuit board comprising:

a first set of conductive paths in a first layer of the printed circuit board that provides electrical conductivity between the common source node, the first switching device, the second switching device, and the third switching device;

a second set of conductive paths in a second layer of the printed circuit board that provides electrical conductivity between the common source node, the first switching device, and the third switching device; and

a plurality of vias that connect the first layer of the printed circuit board to the second layer of the printed circuit board;

wherein a distance between the common source node and the first switching device and a distance between the common source node and the third switching device is greater than a distance between the common source node and the second switching device.

2. The printed circuit board of claim 1 further comprising:

a third set of conductive paths in a third layer of the printed circuit board that provides electrical conductivity between the first switching device and the third switching device; and

a second plurality of vias that connect the first layer of the printed circuit board to the third layer of the printed circuit board.

3. The printed circuit board of claim 2 wherein a portion of the second plurality of vias is the same as the first plurality of vias.

4. The printed circuit board of claim 1 wherein the first switching device is a first low side switching device, the second switching device is a second low side switching device, and the third switching device is a third low side switching device.

5. The printed circuit board of claim 4 wherein the common source node comprises a current sensor.

6. The printed circuit board of claim 4 further having at least a first high side switching device, a second high side switching device, and a third high side switching device that are each mounted to a surface of the printed circuit board, the printed circuit board further comprising:

a first terminal connected between the first high side switching device and the first low side switching device, the first terminal providing power to a first phase winding of the three-phase power device;

a second terminal connected between the second high side switching device and the second low side switching device, the second terminal providing power to a second phase winding of the three-phase power device; and

a third terminal connected between the third high side switching device and the third low side switching device, the third terminal providing power to a third phase winding of the three-phase power device.

7. The printed circuit board of claim 1 wherein the first switching device is a first high side switching device, the second switching device is a second high side switching device, and the third switching device is a third high side switching device.

8. The printed circuit board of claim 7 wherein the common source node comprises a power source node.

9. The printed circuit board of claim 7 further having at least a first low side switching device, a second low side switching device, and a third low side switching device that are each mounted to a surface of the printed circuit board, the printed circuit board further comprising:

a first terminal connected between the first high side switching device and the first low side switching device, the first terminal providing power to a first phase winding of the three-phase power device;

a second terminal connected between the second high side switching device and the second low side switching device, the second terminal providing power to a second phase winding of the three-phase power device; and

a third terminal connected between the third high side switching device and the third low side switching device, the third terminal providing power to a third phase winding of the three-phase power device.

10. The printed circuit board of claim 1 wherein the distance between the common source node and the first switching device is about twice the distance between the common source node and the second switching device.

11. The printed circuit board of claim 10 wherein the distance between the common source node and the third switching device is about twice the distance between the common source node and the second switching device.

12. A printed circuit board for a three-phase power device, the printed circuit board having at least a first low side switching device, a second low side switching device, a third low side switching device, and a current sensor that are each mounted to a surface of the printed circuit board, the printed circuit board comprising:

a first set of conductive paths in a first layer of the printed circuit board that provides electrical conductivity between the first low side switching device, the second low side switching device, the third low side switching device, and the current sensor;

a second set of conductive paths in a second layer of the printed circuit board that provides electrical conductivity between the first low side switching device, the third low side switching device, and the current sensor; and

a plurality of vias that connect the first layer of the printed circuit board to the second layer of the printed circuit board;

wherein a distance between the first low side switching device and the current sensor and a distance between the third low side switching device and the current sensor is greater than a distance between the second low side switching device and the current sensor.

13. The printed circuit board of claim 12 further comprising:

a third set of conductive paths in a third layer of the printed circuit board that provides electrical conductivity between the first low side switching device and the third low side switching device; and

a second plurality of vias that connect the first layer of the printed circuit board to the third layer of the printed circuit board.

14. The printed circuit board of claim 13 wherein a portion of the second plurality of vias is the same as the first plurality of vias.

15. The printed circuit board of claim 12 further having at least a first high side switching device, a second high side switching device, and a third high side switching device that are each mounted to a surface of the printed circuit board, the printed circuit board further comprising:

a first terminal connected between the first high side switching device and the first low side switching device, the first terminal providing power to a first phase winding of the three-phase power device;

a second terminal connected between the second high side switching device and the second low side switching device, the second terminal providing power to a second phase winding of the three-phase power device; and

a third terminal connected between the third high side switching device and the third low side switching device, the third terminal providing power to a third phase winding of the three-phase power device.

16. The printed circuit board of claim 12 wherein the distance between the first low side switching device and the current sensor is about twice the distance between the second low side switching device and the current sensor.

17. The printed circuit board of claim 16 wherein the distance between the third low side switching device and the current sensor is about twice the distance between the second low side switching device and the current sensor.

18. The printed circuit board of claim 12 wherein the first low side switching device, the second low side switching device, and the third low side switching device are field effect transistors, each having a source terminal, a drain terminal, and a gate terminal.

19. The printed circuit board of claim 18 wherein a distance between the source terminal of the first low side switching device and the current sensor is about twice a distance between the source terminal of the second low side switching device and the current sensor, and a distance between the source terminal of the third low side switching device and the current sensor is about twice the distance between the source terminal of the second low side switching device and the current sensor.

20. A printed circuit board for a three-phase power device, the printed circuit board having a switching circuit and a current sensor mounted on a surface of the printed circuit board, the switching circuit having three sets of switching devices, each set of switching devices having a high side switching device and a low side switching device, the printed circuit board comprising:

a first set of conductive paths in a first layer of the printed circuit board that provides electrical conductivity between each of the low side switching devices of the switching circuit and the current sensor;

a second set of conductive paths in a second layer of the printed circuit board that provides electrical conductivity between at least two of the low side switching devices of the switching circuit and the current sensor; and

a plurality of vias that connect the first layer of the printed circuit board to the second layer of the printed circuit board;

wherein the second conductive paths assist in substantially balancing impedances between the low side switching devices of the switching circuit and the current sensor.

21. The printed circuit board of claim 20 further comprising:

a third set of conductive paths in a third layer of the printed circuit board that provides electrical conductivity between at least two of the low side switching devices of the switching circuit; and

a second plurality of vias that connect the first layer of the printed circuit board to the third layer of the printed circuit board.

22. The printed circuit board of claim 21 wherein a portion of the second plurality of vias is the same as the first plurality of vias.

23. The printed circuit board of claim 20 further comprising:

a first terminal connected between a first set of switching devices, the first terminal providing power to a first phase winding of the three-phase power device;

a second terminal connected between a second set of switching, the second terminal providing power to a second phase winding of the three-phase power device; and

a third terminal connected between a third set of switching, the third terminal providing power to a third phase winding of the three-phase power device.

24. The printed circuit board of claim 20 wherein the distance between two of the low side switching devices of the switching circuit and the current sensor is about twice the distance between one of the low side switching devices of the switching circuit and the current sensor.

25. The printed circuit board of claim 20 wherein the low side switching devices of the switching circuit are field effect transistors, each having a source terminal, a drain terminal, and a gate terminal.

26. The printed circuit board of claim 25 wherein a distance between the source terminals of two of the low side switching devices of the switching circuit and the current sensor is about twice a distance between the source terminal of one of the low side switching devices of the switching circuit and the current sensor.

27. A printed circuit board for a three-phase power device, the printed circuit board having at least a first low side switching device, a second low side switching device, a third low side switching device, and a current sensor that are each mounted to a surface of the printed circuit board, the printed circuit board comprising:

a first set of conductive paths in a first layer of the printed circuit board that provides electrical conductivity between the first low side switching device, the second low side switching device, the third low side switching device, and the current sensor;

a second set of conductive paths in a second layer of the printed circuit board that provides electrical conductivity between the first low side switching device, the third low side switching device, and the current sensor;

a first set of vias that connect the first layer of the printed circuit board to the second layer of the printed circuit board;

a third set of conductive paths in a third layer of the printed circuit board that provides electrical conductivity between the first low side switching device and the third low side switching device; and

a second set of vias that connect the first layer of the printed circuit board to the third layer of the printed circuit board.

28. The printed circuit board of claim 27 further having at least a first high side switching device, a second high side switching device, and a third high side switching device that are each mounted to a surface of the printed circuit board, the printed circuit board further comprising:

a first terminal connected between the first high side switching device and the first low side switching device, the first terminal providing power to a first phase winding of the three-phase power device;

a second terminal connected between the second high side switching device and the second low side switching device, the second terminal providing power to a second phase winding of the three-phase power device; and

a third terminal connected between the third high side switching device and the third low side switching device, the third terminal providing power to a third phase winding of the three-phase power device.

29. The printed circuit board of claim 27 wherein the distance between the first low side switching device and the current sensor is about twice the distance between the second low side switching device and the current sensor.

30. The printed circuit board of claim 29 wherein the distance between the third low side switching device and the current sensor is about twice the distance between the second low side switching device and the current sensor.

31. The printed circuit board of claim 27 wherein the first low side switching device, the second low side switching device, and the third low side switching device are field effect transistors, each having a source terminal, a drain terminal, and a gate terminal.

32. The printed circuit board of claim 31 wherein a distance between the source terminal of the first low side switching device and the current sensor is about twice a distance between the source terminal of the second low side switching device and the current sensor, and a distance between the source terminal of the third low side switching device and the current sensor is about twice the distance between the source terminal of the second low side switching device and the current sensor.

33. The printed circuit board of claim 27 wherein a first portion of the first set of vias is positioned in proximity to the first low side switching device, a second portion of the first set of vias is positioned in proximity to the third low side switching device, and a third portion of the first set of vias is positioned in proximity to the current sensor.

34. The printed circuit board of claim 27 wherein a first portion of the second set of vias is positioned in proximity to the first low side switching device and a second portion of the second set of vias is positioned in proximity to the third low side switching device.

35. A printed circuit board for a three-phase power device, the printed circuit board having at least a power source node, a first high side switching device, a second high side switching device, and a third high side switching device that are each mounted to a surface of the printed circuit board, the printed circuit board comprising:

a first set of conductive paths in a first layer of the printed circuit board that provides electrical conductivity between the power source node, the first high side switching device, the second high side switching device, and the third high side switching device;

a second set of conductive paths in a second layer of the printed circuit board that provides electrical conductivity between the power source node, the first high side switching device, and the third high side switching device; and

a plurality of vias that connect the first layer of the printed circuit board to the second layer of the printed circuit board;

wherein a distance between the power source node and the first high side switching device and a distance between the power source node and the third high side switching device is greater than a distance between the power source node and the second high side switching device.

36. The printed circuit board of claim 35 further comprising:

a third set of conductive paths in a third layer of the printed circuit board that provides electrical conductivity between the first high side switching device and the third high side switching device; and

a second plurality of vias that connect the first layer of the printed circuit board to the third layer of the printed circuit board.

37. The printed circuit board of claim 36 wherein a portion of the second plurality of vias is the same as the first plurality of vias.

38. The printed circuit board of claim 35 further having at least a first low side switching device, a second low side switching device, and a third low side switching device that are each mounted to a surface of the printed circuit board, the printed circuit board further comprising:

a first terminal connected between the first high side switching device and the first low side switching device, the first terminal providing power to a first phase winding of the three-phase power device;

a second terminal connected between the second high side switching device and the second low side switching device, the second terminal providing power to a second phase winding of the three-phase power device; and

a third terminal connected between the third high side switching device and the third low side switching device, the third terminal providing power to a third phase winding of the three-phase power device.

39. The printed circuit board of claim 35 wherein the distance between the power source node and the first high side switching device is about twice the distance between the power source node and the second high side switching device.

40. The printed circuit board of claim 39 wherein the distance between the power source node and the third high side switching device is about twice the distance between the power source node and the second high side switching device.

41. The printed circuit board of claim 35 wherein the first high side switching device, the second high side switching device, and the third high side switching device are field effect transistors, each having a source terminal, a drain terminal, and a gate terminal.

42. The printed circuit board of claim 41 wherein a distance between the drain terminal of the first high side switching device and the power source node is about twice a distance between the drain terminal of the second high side switching device and the power source node, and a distance between the drain terminal of the third high side switching device and the power source node is about twice the distance between the drain terminal of the second high side switching device and the power source node.